

CLAIMS

What is claimed is:

5 1. An X-DSL transceiver operable to process subscriber line communications effectuable between at least one digital signal processor (DSP) and at least one analog front end (AFE) and the at least one AFE coupled to at least one corresponding subscriber line for transport of a corresponding channel of data between a subscriber coupled to a corresponding subscriber line and the DSP; and the X-DSL transceiver comprising:

10 a DFT/IDFT engine with a DFT portion to convert for at least one channel digitized tone sets on a receive path to digitized symbols and an IDFT portion to convert for the at least one channel the digitized symbols on a transmit path to digitized tone sets and the DFT/IDFT engine providing variable tone spacing for the at least one channel.

15 2. The X-DSL transceiver of Claim 1, further comprising:

20 a variable rate interpolator coupled to the IDFT portion of the DFT/IDFT engine and the variable rate interpolator setting the sampling rate at an output of the IDFT to match sampling rate of a digital input of the corresponding AFE.

25 3. The X-DSL transceiver of Claim 1, further comprising:

25 a variable rate decimator coupled to the digital output of the corresponding AFE and the variable rate decimator setting the sampling rate at the digital output of the AFE to match the sampling rate at the input of the DFT portion of the DFT/IDFT engine..

30 4. The X-DSL transceiver of Claim 1, further comprising:

30 a scheduler coupled to the DFT/IDFT engine for scheduling channels to be processed by the DFT/IDFT engine during each processing interval.